

# *U.S. Antarctic Marine Living Resources Program*

## *2011-2012 Weekly Field Reports*

### *Cape Shirreff, Livingston Island*

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#### Science Report

##### Seabirds

1. The first gentoo chick was seen on 9 December. Currently 0% of nests in the gentoo reproductive study have begun to hatch, 80% still have eggs, and the other 20% have failed. The failure rate of the chinstrap study nests has increased from last week to 20%.
2. The nests of known-aged gentoo penguins have begun to hatch. 82% still have eggs, 2% have chicks and 16% have failed. The failure rate of known-aged chinstrap penguins is higher than the reproductive study nests at 32%.
3. Of the 22 brown skua pairs attending territories 59% have laid eggs. Out of these, no pairs have lost any eggs.
4. The blue-eyed shags that breed in a small colony on the west side of Cape Shirreff are currently brooding chicks.
5. There are currently 43 gull nests on the island with eggs.

##### Pinnipeds

6. We have completed 23 of the 28 fur seal perinatal female captures we have planned. All females have received VHF radio transmitters for monitoring of attendance behavior and trip duration (CCAMLR Ecosystem Monitoring Program protocol). Ten females have also received a time depth recorder for monitoring diving effort for the first six trips to sea. Five of these also have GPS Fast-loc technology for recording at sea location. Our CCAMLR trip duration captures began on 3 December and, as of yesterday, 5 females have departed for their first trip to sea. Two have completed their first trip those two trips were 16 and 40 hours in duration.
7. Thus far we have had 12 of the 14 seals instrumented with geolocation light sensors (Nano-LATs) last year return from their over-winter migration. Of the 12 we have recovered eight thus far. The remaining four are either not pregnant (2) or were in locations that were not conducive to recapture. For those we will wait until after the breeding season when captures are easier. We have only been able to download data from four of the eight recovered.



8. We have also had three females that carried ARGOS-linked PTT (Platform Terminal Transmitters) return with their instruments. Two of these have been recovered thus far. We will soon recover the third. In addition to these three females another four other females returned without their instrument. One of these was female that carried both a PTT and a nano-LAT. The data recovered will allow cross validation of both data collection methods. One of the recaptured PTT females transmitted the entire time at sea from when she was first instrumented at the Cape in late February 2011 until she arrived on 6 December.
9. We are monitoring pup growth of our CCAMLR attendance females and have gotten a post-perinatal mass on four of the pups whose mothers have departed sea. The female that had a 16-hour first trip returned before we were able to get a mass for her pup.
10. At the last census of fur seal study beaches on 11 December we recorded a total of 721 adult females and 860 pups (832 live and 28 dead). On land mortality of pups is 3.4% thus far.
11. We still have pregnant females returning every day and next week will report estimates of over-winter survival and natality for adult female fur seals.
12. We recorded the arrival of our first Leopard seals this week. They were two females and one small male. All were untagged. One of these has since been tagged and all three have been photograph for photo ID study.
13. The last of our lactating elephant seals weaned her pup and departed for sea on 9 December.
14. We recorded 257 southern elephant seals, 38 Weddell seals and one leopard in this week's cape-wide Phocid census.

### Weather

15. We had a small storm yesterday with winds gusting into the lower 40's (mph). Fortunately we were able to work in some protected areas and were still able to conduct four fur seal captures. Mean wind speed this week was 15.0 mph with maximum wind gust of 45 mph. Winds were predominantly from the west all week. The mean temperature, 1.8°C, made this our warmest week since arriving on 10 November. The high temperature for the week was 12.0°C and the low was 0.2°C. Total precipitation this week was 0.6 inches. Sunrise and sunset are now 02:58 and 22:46. Mean daily solar radiation this week was 14,173 watts per sq. meter.



## Camp

16. We put up our gutters for rain collection on 9 December and were able to begin replenishing our diminishing fresh water supply with the precipitation we have had since the 9th.



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